BASF Wyandotte Corporation
Pigments Division • 491 Columbia Ave., Holland, MI 49423 U.S.A.
Phone (616) 392-2391: Telex (810) 292-6161: Cable MACATAWA

US EPA RECORDS CENTER REGION 5
404079

March 3, 1980

Department of Natural Resources
Water Quality Division
Oil & Hazardous Materials Control Section
P.O. Box 30028
Lansing, Michigan 48909

Dear Sirs,

The Pigments Division of BASF Wyandotte Corporation proposes to landfill industrial and wastewater treatment solid sludges at White Lake Landfill, White Lake, Michigan. We wish to begin such landfilling activities immediately, and would appreciate your efficient review of this matter.

In addition to the required forms, I have attached a general description of the type of waste involved, and a summary review of its characteristics with the proposed rules for Act 64. We can not at this time declare that this material does not fall under Act 64.

Please contact me at 616-392-2391, extension 268, if you have any questions regarding this request for review.

Sincerely,

Philip G. Webb

Dr. Philip G. Webb
Manager, Technology Services

PGW/jer
cc

WASTE GENERATION DESCRIPTION

The Holland Plant of BASF Wyandotte Corporation's Pigments Division manufactures organic pigments, pigment intermediates, dispersions and related materials, primarily for sale into the printing ink and paint industries.

The plant operates a secondary wastewater treatment system to achieve wastewater quality criteria set forth in NPDES permit MI 0000761. The solids removal operation of this treatment facility generates approximately 45-90 cu. yds. of wet solids (48% solids) sludge a week, which is primarily calcium sulfate and aluminum hydroxide. It does contain some organic pigments and related compounds and some metal salts at low levels.

One plant operation manufactures a pigment intermediate used internally in pigment manufacture. This intermediate production operation generates two wet solid sludges of approximately 20 cu. yds. per week each. The first is a calcium sulfate sludge resulting from the neutralization of a sulfuric acid solution with calcium carbonate. The second is an iron oxide sludge resulting from the reduction of an organic nitro-chlorotoluenesulfonic acid to the amine. Both of the sludges are obtained by filtration, washing, and air drying to approximately 70% solids.

EVALUATION OF HOLLAND PLANT WASTES

Rule 301) The three wastes from the Holland Plant are not listed in Rule 301, nor do they contain any of the infectious or parasitic agents listed in Rule 305.

Rule 302) The three wastes from the Holland Plant are not believed to be flammable, corrosive, oxidizer, reactive, explosive, or organic peroxide in nature. Many of the materials in Table 302 are used in our operations, and may be present in the waste sludges in as yet undetermined amounts. A wet solid sludge of pH 9 would significantly reduce the hazardous nature of most of these materials.

Rule 303) Because of the materials used or produced by the Holland Plant, the following components may be present in the wastes from the Holland Plant:

Table I - Possible Waste Constituents

Component	Rating	Waste Treatment	Iron Sl.	Lime Sl.
PCB	77	x		
Antimony	7	x	x	x
Hypochlorite	7	x		
DCB	7	x		
DOP	7	x		
TCB	7	x		
p-Chlorotoluene	5	x	x	x
Ethylbenzene	5	x	x	x
Toluene	5	x	x	x
Acetic Acid	3	x		
DOP	3	x		
Formic Acid	3	x		
M-Nitrotoluene	3	x	x	x
O-Nitrotoluene	3	x		
PA	3	x		

Except for DCB, Antimony, and PCB, the concentrations of these materials have not been determined.

DCB	0.051 ppm
PCB	None Detected
Antimony	200 ppm/153 ppm/ 1527 ppm

The quantity of waste currently being generated is approximately 400 cu. yds. per month(of waste treatment)sludge, 80 yds./month of iron sludge, 80 yds./month of lime sludge. Densities are 0.876, 1.87, and 1.52 respectively. This converts to 276,996 kg/month, 118,261 kg/month, and 96,126 kg/month.

With these amounts, the concentrations of components which would make the material hazardous are calculated on the following table:

Table II - Applicability of Act 64

Toxicity Rating	Waste Treatment	Iron Sl.	Lime Sl.
77	1 ppm	1 ppm	1 ppm
7	1 ppm	1 ppm	1 ppm
5	35 ppm	80 ppm	100 ppm
3	350 ppm	800 ppm	1000 ppm

Rule 304) Water leachate tests have been run on the three waste sludges from the Holland Plant. For the metals listed in Table 304, the results in ppm are as follows:

Table III - Water Leachate Test Results

	Waste Treatment	Iron Sl.	Lime Sl.	Rule 304
Aresenic	7.5	5.1	3.5	0.5
Cadmium	0.0	0.0	0.0	0.1
Copper	2.2	0.1	0.1	10
Chromium	0.0	0.0	0.0	0.5
Lead	0.0	0.0	0.0	2
Mercury	-	-	-	0.02
Selenium	1.9	1.5	1.8	0.1
Silver	0.0	0.0	0.1	0.5
Zinc	0.0	0.0	0.1	50
Also run were				
Beryllium	0.0	0.0	0.0	
Nickel	0.3	0.2	0.3	

Rule 305) It is not believed or expected that any of the micro-organisms or parasites of Table 305 are present in this waste.

...TRIAL WASTE STREAM ANALYSIS - LICENSE APPLICATION ADDENDUM (FORM - INSTRUCTIONS ON BACK)

E HAULER PERMIT NO. _____

Name: _____

ess: _____

e: _____ Date: _____

ature: _____

E GENERATOR

Name: BASF WYANDOTTE CORP., Pigments Division

ess: 491 Columbia Ave., Holland, MI 49423

any official verifying waste contents
ach lab analysis if available)

: Philip G. Webb

e: 696/392-2391 Date: 2/29/80

ature: _____

OSAL METHOD & FACILITY TO BE USED

ncineration x Landfill ___Other _____

_____

e: _____

ress: _____

INE MATERIAL

Toxic ___Flammable ___Chemically active

Odor ___Corrosive ___Liquid x Sludge

Irritant ___% Gas ___Volatility (if greater than acetone)

%Solid ___pH ___Other _____

e: _____

ress: _____

ERAL DESCRIPTION OF WASTE AND
CESS GENERATING WASTE

Iron oxide sludge by-product of chemical processing operation

LUME OF WASTE MATERIAL

_Gallons or 20 Cubic Yards Per:

xWeek ___Month ___Year ___Only hauled once

ENTIFY MAJOR COMPONENTS: 1% (10,000 mg/kg) OR EATER OF WASTE CONTENT

Compound or Element	Concentration (%)
Iron Oxide (Fe_3O_4)	62%
Water	23%
Diatomaceous Earth	5%

MINOR COMPONEN. : LESS THAN 1% (10,000 mg/
OF WASTE CONTENT (Element and/or Compound)

INORGANIC METALS:

1.	60 mg	Lead	5.	0 mg	Beryl
2.	14 mg	Zinc	6.	2 mg	Cadm
3.	162 mg	Nickel	7.	220 mg	Chro
4.	337 mg	Copper	8.	-- mg	Merc

INORGANIC NON-METALS:

9.	-- mg	Chlorine	12.	-- mg	Phos
10.	-- mg	Bromine	13.	-- mg	Sulf
11.	258 mg	Arsenic	14.	-- mg	Non-combustible

DOES THE WASTE MATERIAL CONTAIN ANY OF THE FOLLOWING?

Class of Compound	Yes	No
15. Perhalo - organic	___	x
16. Halogenated aromatics (e.g. PCB, PBB)	x	___
17. Aromatic Amines (e.g. azo & hydrazo)	x	___
18. Carbamates	___	x
19. Aromatic Ureas or Thioureas	___	x
20. Cyclic Nitrogen	___	x
21. Phenols, to include halogenated phenols and their salts	___	x
22. Quinones	___	x
23. Other halogenated organics with more than 30% halogens by weight	___	___
24. Phosphate or phosphorus containing compounds	___	x
25. Sulfur containing compounds	x	___
26. Polycyclic organic material	___	x
27. Silicone containing	___	x
28. Asbestos	___	x
29. Other toxic or hazardous material	___	x

INDICATE THE SPECIFIC NAME AND CONCENTRATIO
THE COMPOUND(S) IN EACH CLASS (15 thru 29)
ABOVE THAT HAVE A CONCENTRATION LESS THAN
10,000 mg/kg

Compound	Concentra (mg/k
Chlorinated sulfonated toluidines (classes 16, 17, 25)	< 1%

FOR OFFICIAL USE ONLY:

STRIAL WASTE STREAM ANALYSIS - LICENSE APPLICATION ADDENDUM (FORM - INSTRUCTIONS ON BACK)

E HAULER PERMIT NO. _____

Name: _____

ess: _____

e: _____ Date: _____

ature: _____

E GENERATOR

Name: BASF WYANDOTTE CORP., Pigments Division

ess: 491 Columbia Ave., Holland, MI 49423

any official verifying waste contents each lab analysis if available)

: Philip G. Webb

e: 616/392-2391 Date: 2/29/80

ature: _____

POSAL METHOD & FACILITY TO BE USED

Incineration x Landfill ___Other _____

e: _____

ress: _____

INE MATERIAL

Toxic ___Flammable ___Chemically active

Odor ___Corrosive ___Liquid x Sludge

Irritant ___% Gas ___Volatility (if greater than acetone)

%Solid ___pH ___Other _____

e: _____

ress: _____

ERAL DESCRIPTION OF WASTE AND CESS GENERATING WASTE

Industrial wastewater treatment sludge

LUME OF WASTE MATERIAL

_Gallons or 90 Cubic Yards Per:

x Week ___Month ___Year ___Only hauled once

ENTIFY MAJOR COMPONENTS: 1% (10,000 mg/kg) OR EATER OF WASTE CONTENT

Compound or Element	Concentration (%)
Calcium sulfate	24%
Aluminum hydroxide	21%
Water	52%

MINOR COMPONEN : LESS THAN 1% (10,000 mg/ OF WASTE CONTENT (Element and/or Compound)

INORGANIC METALS:

1.	13 mg	Lead	5.	< 1 mg	Bery
2.	67 mg	Zinc	6.	< 1 mg	Cadm
3.	5 mg	Nickel	7.	25 mg	Chro
4.	600 mg	Copper	8.	-- mg	Merc

INORGANIC NON-METALS:

9.	-- mg	Chlorine	12.	-- mg	Phos
10.	-- mg	Bromine	13.	-- mg	Sulf
11.	270 mg	Arsenic	14.	-- mg	Non-combustible

DOES THE WASTE MATERIAL CONTAIN ANY OF THE FOLLOWING?

Class of Compound	Yes	No
15. Perhalo - organic	___	x
16. Halogenated aromatics (e.g. PCB, PBB)	x	___
17. Aromatic Amines (e.g. azo & hydrazo)	x	___
18. Carbamates	___	___
19. Aromatic Ureas or Thioureas	___	___
20. Cyclic Nitrogen	___	___
21. Phenols, to include halogenated phenols and their salts	___	___
22. Quinones	___	___
23. Other halogenated organics with more than 30% halogens by weight	___	___
24. Phosphate or phosphorus containing compounds	___	___
25. Sulfur containing compounds	x	___
26. Polycyclic organic material	___	___
27. Silicone containing	___	___
28. Asbestos	___	___
29. Other toxic or hazardous material	___	___

INDICATE THE SPECIFIC NAME AND CONCENTRATIO THE COMPOUND(S) IN EACH CLASS (15 thru 29) ABOVE THAT HAVE A CONCENTRATION LESS THAN 10,000 mg/kg

Compound	Concentra (mg/k
Chlorinated and non-chlorinated	<1%
aromatic amines, sulfonic acids	

FOR OFFICIAL USE ONLY:

TRIAL WASTE STREAM ANALYSIS - LICENSE APPLICATION ADDENDUM (FORM - INSTRUCTIONS ON BACK)

HAULER PERMIT NO. _____

Name: _____

ess: _____

: _____ Date: _____

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GENERATOR

Name: BASF WYANDOTTE CORP., Pigments Division

ess: 491 Columbia Ave., Holland, MI 49423

any official verifying waste contents
ach lab analysis if available)

: Philip G. Webb

e: 616/392-2391 Date: 2/29/80

ature: _____

OSAL METHOD & FACILITY TO BE USED

ncineration x Landfill ___Other_____

_____

: _____

ress: _____

INE MATERIAL

Toxic ___Flammable ___Chemically active

Odor ___Corrosive ___Liquid x Sludge

Irritant ___% Gas ___Volatility (if greater than acetone)

%Solid ___pH ___Other_____

e: _____

ress: _____

ERAL DESCRIPTION OF WASTE AND
OCESS GENERATING WASTE

Calcium sulfate sludge by-product of chemical processing operation

UME OF WASTE MATERIAL

Gallons or 20 Cubic Yards Per:

Week ___Month ___Year ___Only hauled once

ENTIFY MAJOR COMPONENTS: 1% (10,000 mg/kg) OR EATER OF WASTE CONTENT

Compound or Element	Concentration (%)
Calcium sulfate ($CaSO_4$)	66%
Water	29%
Sand	5%

MINOR COMPONENTS: LESS THAN 1% (10,000 mg/kg) OF WASTE CONTENT (Element and/or Compound)

INORGANIC METALS:

1. 17 mg	Lead	5. 0 mg	Beryl
2. 293 mg	Zinc	6. 2 mg	Cadm
3. 29 mg	Nickel	7. 19 mg	Chro
4. 5 mg	Copper	8. -- mg	Merc

INORGANIC NON-METALS:

9. -- mg	Chlorine	12. -- mg	Phos
10. -- mg	Bromine	13. -- mg	Sulf
11. 213 mg	Arsenic	14. -- mg	Non-combustible

DOES THE WASTE MATERIAL CONTAIN ANY OF THE FOLLOWING?

Class of Compound	Yes	No
15. Perhalo - organic	___	x
16. Halogenated aromatics (e.g. PCB, PBB)	x	___
17. Aromatic Amines (e.g. azo & hydrazo)	___	x
18. Carbamates	___	x
19. Aromatic Ureas or Thioureas	___	x
20. Cyclic Nitrogen	___	x
21. Phenols, to include halogenated phenols and their salts	___	x
22. Quinones	___	x
23. Other halogenated organics with more than 30% halogens by weight	___	x
24. Phosphate or phosphorus-containing compounds	___	x
25. Sulfur containing compounds	x	___
26. Polycyclic organic material	___	x
27. Silicone containing	___	x
28. Asbestos	___	x
29. Other toxic or hazardous material	___	x

INDICATE THE SPECIFIC NAME AND CONCENTRATION OF THE COMPOUND(S) IN EACH CLASS (15 thru 29) ABOVE THAT HAVE A CONCENTRATION LESS THAN 10,000 mg/kg

Compound	Concentr (mg/k
Chlorinated toluenesulfonic acids (classes 16, 25)	<1%

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